Notebook, PN-09-08-10

This pocket notebook was used by Edison during 1909, although the inside front cover bears the date of April 28, 1919. It contains notes regarding experimental work and other tasks to be performed at the laboratory. Like PN-09-07-20, this notebook indicates Edison's renewed commitment to work on his phonograph toward the end of 1909. Among the experiments described are many suggesting new materials for phonograph record blanks, new reproducers, sapphire and diamond styli, and recording apparatus. Other entries relate to musicians and musical instruments for recording sessions, motion picture marketing and distribution, kinetophones, long tubes for battery electrodes, paints and tints for cement, and the cost of limestone. Also included are estimates of Edison's royalty income, along with reminders to inquire about the value of his property in Glen Ridge, New Jersey, and to check on patents for cement kilns, storage batteries with lithium hydroxide electrolytes, and new natural and synthetic materials for phonograph record blanks. Among the individuals mentioned in regard to experimental and other work are Frank L. Dyer, Otto Groethe, Daniel Higham, John Lansden, and Dyer Smith. The pages are unnumbered. Approximately 160 pages have been used.

PN-09-08-10.

Final Cut
April 25, 1919

In 1904 – Tons of lime burned in Tons

Conn	47	000
Me	186	000
Md	116	000
Mass	68	000
NJ	35	000
NY	101	000
Pa	567	000
Vt	39	000
	1,159	000 tons

Soapstone for grinding near Philipsburg
Value of ground Talc used in mfg
paper is generally $17. per ton –
Pulp mills are take Talcum or mica
ground. Fluorspar $60. Crude
$18. ground, imported Fluorspar
runs the Ky stuff a close

Pa Salt Co using Cryolite have
4,000 Tons Fluorspar per year
which they need to stock
furnace Open hearth

Gypsum deposits on G.P.C. water frontage
Ledge from finely ground plaster Paris
mixed with Hydraulic Calcine -
Known as Keene Cement

Barytes in ground to
unspecified amount under Eng
Bulwarks Longs.
production Crude Barytes, 67000 lbs
Blending & grinding 31 acres
Prices f.o.b. 25@ to 17@ 12 dollars
Ton - also unpatented 5000 tons
ground

Shale & Slate in ground to
fragments 500 million tons year
worth $10 per ton -

Flint in ground 10000 Ton
year reduced to 11000.
Pa. No have mines principal ore

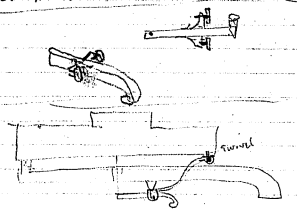
Fledspar ground 25000 Tons
Value, Crude 3½ ton ground
$8 Ton Mod. Simple ore
Pa. Ton allum & [illegible]

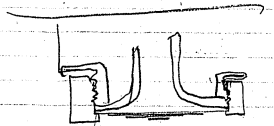
Why not crush Dolomite nuggets
at Cement works
for ballast & Concrete
also, smaller nuggets Road &
Crush Chrysotile hardest Rock
for Nth ballast,

Collard Concrete for fine
work around the Dolomite
Clay in with Cement
Clay in Seams at Reservoir -
tinted or plain -
& Figured Concrete,

Indoor prices for Cellar
Concrete blocks along D.P.&W.
Flowers & Lilies might make blocks
from Dolomite cheap.

Get Copy Kiln patent (18) Coal
that Maxwell owns —

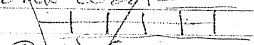




Small Lathe
10/000 - soft brasses around Expo
foot clamp —

Ask Wallace Miller what he
thinks of using a 7/000
recording Knife + some of
reproducing for big record

In long iron tube - put the
cloth tubes stop tubes dolls
filled with wood —
also



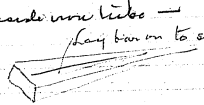
sand stoppers —

Close with diaphragm + put under
air pressure

also

also

put cloth tube
made now tube —



Lay tow on to stretch it

Reg tube made
oval + moulded + lamp rod oval
then rings on oval this gives
chance to swell to circular
John make lamp moulded —
use reg tube but oval —
B. fl B. gram + 33 1/3 —

In those tubes Holland has
that gone bad ~~any~~ tore hole
1/32 + force in a split nickel tube —
See if get back Capacity

Get local Real Estate man
to determine value front lot
Glen Ridge — ~~[illegible]~~ H Miller
find out Coast property on sale
remount apart for up building
water closet property also
but not Garage Engine
etc — + answer Brown
lowest price front lot
+ Option on factory goods on
long as possible at lowest
price — if want take part
payment how much down
you take on West property at
4 1/2 % —

Mallory about crushing Dolomite
for Holland Concrete + at
Rand Dyke for B.W. Holland

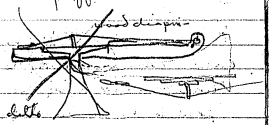
from Lehigh Valley Ft to NY Bay 15.2
to get to NY Dock 10.0
25.2
wood 26
Hudson River points to NY Dock 15 c

Costs 5 c more to make cement on
Hudson River - not so good
slow setting
Magnesia checks with Indian Lime
Cambrian Steam Shovel

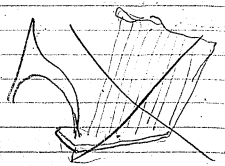
Rd Cum add 15% from steel
down with his muscle Ni -
Have him do it on some st
test it with the Reg from
which he used muscle -
got 14% from his funds

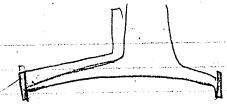
" Lead pipe made also 5" thin -
Steel pipe 1" also heaviest wall
2" steel pipe funnel on end
big 5" steel pipe bec of makes my
def with flame at back end,
Saw 5" sqr wood pipe in 6 sections
& manipulate.
5 or 6 lengths 1" glass tube butted
together to buy effect smooth walls

Violin -



Violoncello bits





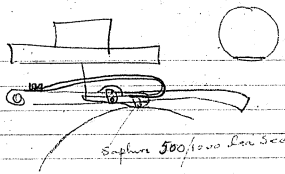
Rubber

Goldstein made some Bi hydroxy
So Can run with green to
make a ground
with Oxychloride –

Goldstein to get right
alcohol make NiOH dry
a ball & determine, heat
requirements, also set up
Cell, test NiOH, also to
save the $10H_2O$ Sulphate –
Look up record of soda Sample etc + runs

Drying green mish

fill full +
give not.
Bring to
Bally Com
E 15 –
steam heat reflected
Vacuum in boiling
water –



Send for some much cooled down
Think we have Carbon not cooled
down –

See if have any 1164 with Bi flake
also see how 719 compare with 739
with Bi flake –
Ask Goldstein to try 70 gram
lot proportion + 2 lb big lot
with Oxychl Bi process

Find the green cooled various
lumps Ni + drop with Reg +
Bi flake –

Try Sound Meter with a small funnel & use rig. funnel gets some distance down lyn line –

Ott make Mouthpiece outlet increased in area equal to increase in area of dia over rig 1.5/16 dia & use funnel in proportion.

Dodge make some flake with ni 1/5 thick. Clean the 2 min so Goldstein Compt on twice the Bi I

Mix Oxycel Bi with Bifl to make balls –

Ask Goldstein what % on flake Bi & get increase in thickness

as canvas absorbs sound strongly try recorder dia with cloth on it made chamber to absorb more of energy of the sound waves & not reflect it back –

Sand & Viscose block, Horse & Road making RO how Viscose solutions with Portland Cement

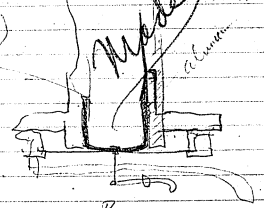
Hang big 3" tube up by 6 or 8 suspension or lay on sound perhaps it vibrates less or along

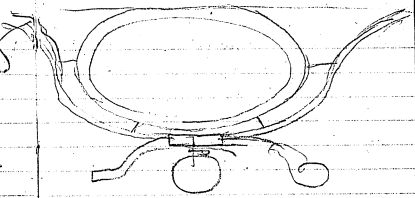
glass funnel for ground floor 1/2 thick at end 1/4 where smaller

Dr. 9. Ammonia combines directly with CS_2 to form Sulphocarbamide.

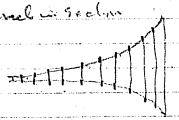
Sulphonaphthalene — action of Sulphuric Anhydride in fused Naphthalene — crystl for Alcohol in nodules, tasteless & inodorous, insol. act. 70 Cent to a transparent glass — Phoms Red

Bromos Eosine 6g fraction decomp at high Temp





Cut the 2" Iron tube in 4 quarters & form with tongs see of the joints, if so then Cut the Big tube in 10 pieces But then with paper compass & draw Cycle with rods — If the sections that drop 66 l. round then make up a funnel in sections



~~Speak to Halland & Dodge~~
~~about 3 middle non plat.~~
~~to have 9 prns or 10 q~~
~~2 outside same as now~~
~~from 25 to 4 oz more fe~~
~~to get better results & useful~~

get a Column note -
Record for Expanding
on funnel

WR Wills
D. Summer Rounds
Summer
176 Summer
Lapidary

Aug 10 1909
John Lavria & Son
Musicians
252 Bank St
Newark

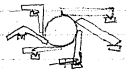
Carbon button, gold leaf laid over
flex talk against the Diphone Reeds

possibly felt laid over platinum foil -

It seems that all tubes & funnels
take up the vibrations + prolong it after
cessation of the primal vibrations &
thus distorts quality makes it
& complicates the wave record
What we need probably is
dampers which are free to
jump from the matter of which
the funnel is made to stop
vibrations when primals cease
there must be lots of them

Aug 10 1907

to present room colors records
should be taken in a tent
or open air —



also possibly sand around funnel
or tube will do I

A funnel made of Canvas &
wet with anhydrous of Cyanine -
or a very heavy liquid Barium metaphosphate
of Cadmium or heavy Chlorinated
Substances, felt also.
perhaps a semi solid viscous
substance like BS thinned down
& soaked in the Canvas or felt
funnel or tube -

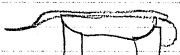
Aug 11th 1907

2 Each	4 f	36	4 lb	4½	45	
"	4 f	48	4 lb	4½	5	
	4 f	60	4	4½	5	

Drop with Bi f

Has written made ~~group~~
from Iodoform Oxyfall & Bi
flake ~~[illegible]~~

Leather funnel - soft
Gelatin funnel
Oleate Mg or Al funnel

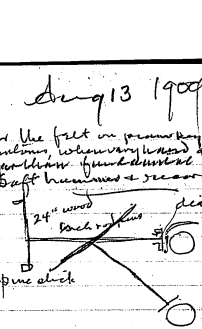


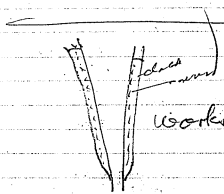
Test Rubber

Bottle filler

Aug 13 1909

Have the felt on pressure by hooks
the overtone, when very hard produces
stronger than fundamental
try soft hammers & record

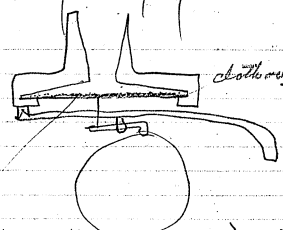




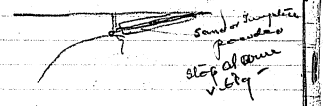
glass tube 20 ft surrounded
sound is perfect as zero or
661 seconds —

are now making Big
Double sand funnel

Aug 13 1909



X are balls of tungsten or fine cardolite
about 5/1000 dia to make the
dia alec over stop & vibtg
in sections or equal or nate
or strength Jerry note in
rotund if in tone



Telephone ~~Dans~~ Dan Walker
too small out Tonium

If fundamental note of a stopped pipe is 100 1st overtone is produced by 300 2nd by 500 and so on 1 3 5 7 9 etc
Open pipe 100 – 200 300 etc 1 2 3 4

If pipe in tune with 100 vib
then pipe being 10 times better Could or another ~~the~~ of and 10 time the length of Column of air would be required to give same note when vibrated longitudinally

Open pipe 26" long 256 Vib
closed pipe 13" long

The length from node to node is always half of a sonorous wave

41 Vib sec is cheapest tone used in orchestra
in a glass tube for 100 vib
the flag being 16 times higher relative
sound than any thing will be
16 nodes due to 1 vib longitudinally of the tube

There is a special nodal line around tubes when sounded by Savart ~~the~~ when tube vibrated longitudinally Seebeck proved this does due to transverse vibration

See How Schaff is getting on with big phone –

get 20 ft ~~5~~ stove pipe –

a to b wave 26 inches
back b to a 26
52 length of
wave – column air
requires to 3/4 of whole
or 1/2 of the Compressing
part of wave when closed
Tube need (10) 13 inches

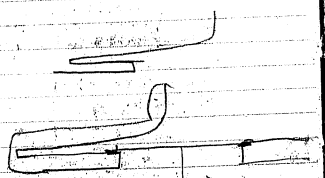
12 feet prevents every tone higher than
20 per sec

Get Microscope to look at Records
Look at Spencer's records
See if was delicate diaphram
Couldn't have been used see
if Lenderman jump out my phone

Order 400 lbs buckshot

Take Case up on phone Eggles
Stop drilling holes out -

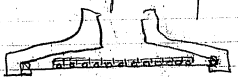
Look the Cup Speaker
If get anything Cut out
Chamber so pulley & Cogs
holds outside of Cup -

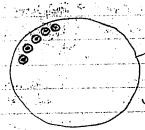


Larger chamber Reg dia. size
to make it not as a resel Nodes

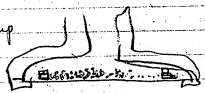
first overtone of a tuning fork is
to ½ time the rate of the
fundamental

Eggleston design recording device





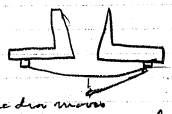
also cup



filled with balls too large to
go between device & cup or
ring there used to
dampen device.

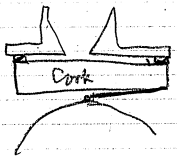
Get piece brass tubing used for Mercurius. 12 ft. or so for test –

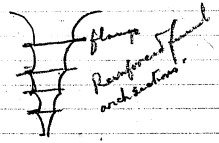
Recorder


Rubber

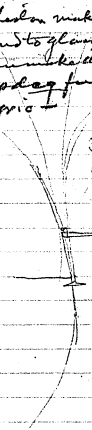
Cylinder drum mirror

also


Cork


flange
Reinforced funnel
arch section

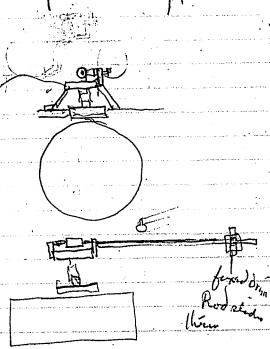
Expansion make a shield report of the Blue to glass works ask if they can make this – Recording for Rep. Dog funnel Wallace III & Lyric –



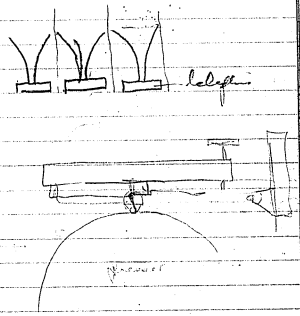
36" funnel large radium
Curved – glass or perforated
metal
layered down into dark chamber
& that very close as
area small –
for Violin –
Let close with Rubber
gasket.

Aug 19 1909

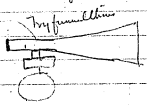
Emeq on Recording Phonograph



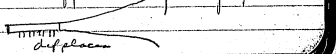
Try Emeq Carb Lithia, Oxyl Li Bi
Bi OH, also wet with Dextro glucose,
Li OH, gelatin + KOH; Saccharate Lime

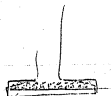


Scorum on 1181 Ni OH, 1481
on 2 cos Gum sango —



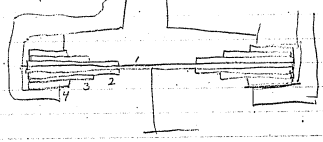
also def plates along already part





Carbon button
possibly thin layer of big women
do F_1 or a permanently viscous
amalgam

Mica disc to prevent excessive
amplitude



1 ~~W~~ 2
~~also~~ also double number of diaks
1.2.3.4.5.6 – 4 treble
1 2 3 4 5 6 7 8 9 10 11 12

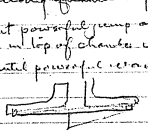
Increasing the bowing very slowly bowing
out high & low series semitones one demisemi
the power increase power of higher notes

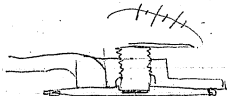
Rod fixed one end vibrates square of
its length 36" 4" 2.56 2" 1.44
step 36" 1 sq 1 per sec 12" of 16
3" 144 1" 1296
Vibly varies of a disc is directly as to thickness
& opp of dia

Sparks
The resonance chy do not permit the bore
so that a 5 ft wave part yield pressure at
fundly pressure falls taking dangerous
effect off pressure & probably produces
other vibrations – in light probably
should use glass tube of 3 inches bore
before pressure attached exact as the
this bowing out low notes total length
including funnel say 60 inches

To prevent powerful jump out use bottle
½ valve on top of chamber which would not
vibrate until powerful waves come

also





Tell Walter, percentage of recording knife between 1 — High angle always + compensate for jump, pitch & depth of groove too narrow — Hence must be tested off always check form of groove — ~~Q~~ New point V for beat in bottom radius or bottom flat

With 10/1000 knife in 200 lb and .675/1000 groove full width,

at 160 speed or 17000 inches per second speed in groove is 4 times the speed of decryphon —

Doctor hammers on piano when playing with pianola —

Jell Pellicer tested in 12 to 18 weeks 1½ or 1" glass + Hamburg records —

Get Micro to measure rules of vibration jump out on Kyclop the voice or records that jump —

What makes a chart funnel thin so that the wave say 256 actuals is 24" long condensation is that it gets to free air before it has received maximum pressure hence never can rise to full pressure — To get piano low notes must have 52" at that part like part funnel — ~~[illegible]~~

Make 12 Recorders like Walters
6 of
Each dia 1/16 bass dia — all 6/1000 mica
1 5/16 (41 mm) — now 1 of 1 4/16 (41.00) 1 3/16 (30.1) 1 2/16 (29.4)
1 9/16 (39.0) 1 of 15/16 (23.5)
The other 6 with 3/1000 —

Reg repeater 7/8 of oz pressure on ball —

1 ⅛ oz —

Rikers farm little Lake Hiers 1 to 1½ ~~mile~~ from Sparta

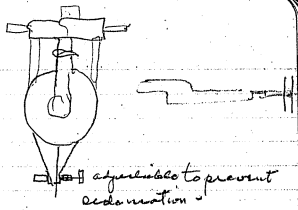
Hang Petit Compress in Hydraulic a while away maybe record we have much if which to —
Gets a Mountain Record —

Bell Pellet Feeder
Chamber damper regulator
dia to Cushion
ration short funnel
used prevent [illegible]
Regulator [illegible]
adjust Opening

Calcium on Connelly Pigtrates

Dec 1181 small Soda used

[illegible] distinguishe
Water up to [illegible]
of low loading [illegible]
heavy loading [illegible]



2 Tumes 2 each
I m prop Phosphomolybdate K
" Arsenate
Chromate
Arsenate
Antimonate
Silicate

Dialyzed Turpheated
for Eng

970 Why Coming up again

Try - Iron pocket 30 with CuO & see if Blue comes out, The high above reduce it to low as fast as it comes out, see if it affects Zinc below

Open ckt —

Reduce in Mr Wilder & Bradley Co the 6 perf plates which are to be filled with CuO this will keep blue from coming out,

Try Carb Soda in Nutt throw down blue

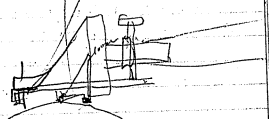
also R Ferroquinide

also KI

Gravity Squirt thick Viscose gently set through a drop film wide - with a setting agent —

Pierman use a 1/4 to 3/8 thick disk in Center also

also



Fred Old put the on with Osylum

or

Body - thus equal of the rod

anhydrous Na_2SO_4 neutral.
MP 861 Volatilizes at white heat
when ignited with $CaCO_3$ there is no
decomp $Al_2O_3 + Na_2SO_4$ no
decomp - if reducing gas
Sodium Aluminate formed if Silica
Na_2SiO_3 formed
CO doesn't reduce Na_2SO_4

NaCl to volatilize the Fe from Cement.
Na_2CO_3 for flux MP 814 C
$CaCl_2$
Orthoclase - Barium Sulphate
Litharge -
NaOH black bottoms -
Solid Na_2SiO_3, powdered
Lime water - Sat gypsum in water.
$CaCl_2$ sat water - Na_2SO_4, for washing
flakening of black.

Borrow a Trombone -
go down town to music
stores look at Mussiah
insts of Trumpet chorus

Get some 100 thread zapder Saphire -
Less radius - see what req to
their dummy 25 50 75 + 100 o/s
to get fine corrosion

Try friction repair on 100 thread
Tetranup -

Opp Miller moving trading
Rubber pts to Rig shop

Knips

See Dodge where to place
House

Put Case on Portland Cement
Paint Pigments are ground
for painting Concrete + also
Wood of formulae —
Get Supply Pigments.
Ultramarine Zinc, also to
Carry on Quick hardening
Exptes - under about [illegible]

Nickel hydrox Expts -
Reg up process 4 oz +
put — Cobalt oxo + dry deep
dish — Bi Cu ~~Fe~~ Fe Cd Ce
So 200 Mlg 2nd tube — Cr Mo W
Ur Co Au Ag Si Bo Mg Zn
Sb, traces, also Ba Soy +
other mixed Compounds —

To Remove Organic matter from
KOH, dis CuOH in then filter
Shake + filter Water Mercuric
Oxide to get Colorless —
also without Cu just Use MgO

3 — group - 4 f ~~48~~ green
1164 column 9 get it —
2½ Lb cot Dup 3
Dup 3½ ditto 4 ditto
4½ do 5 Lb cot.
Dump green Ulm flake
Ulm tamp — ZIK ZL.
Dup all above with
2 Lb 6 ly lot — Bi f

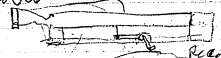
Get up Estimate Cost for
factory 2500 cells daily
Ultimately — including 6 ly
amalgam for tubes —

Ask Dodge what he does
about rubbers on filler
if Blinds bad our Valve
dont work + get leaks
KOH in air & loss dry
Have lot fillers with dry rubber
put hot water + leaks
use Case

Cancel

Sept 15 1909

Feed 066 –



Reconsider this way

Same angle as good Replaw –
X think this vibrates Turn up
Edge make it an angle

Wattle Mallow & Tang of Belchelan
gets it now was dropping out
Why not run rack of Cars
from no they taking risk
they have always –

Moment check Comes put
Case on it

Wattle Mallow off fol on
Cement blox idea do go
into it also running
& diminished on first running Kilns
20 660 to get 20 money

Get up formula for 130 M 660 month
getting Kiln running increase chalk
fine ground to work 1 shift 12 h –
433.660 hour 10 hours or 12 hour shift
155 tons chalk "
9 Kilns 24 hours 20660 "
all in good working order

Why not put through in Plank &
do plain loading. save 10 c
on tons apply same on 100 or 200
tons hand loading for furnace.

Measure threads per inch
on Mortar & Tetreinap
Records something wrong

Dyn-
If Lithium palmitate
abroad under
General Condition
also about nitrating Bergroom

for small friction wax for recording
use Stearic Aluminum + an oil —
also dissolve in Chloro or other Solvent
+ paint surface of wax cylinder
until deep enough — ask GWA
best way
Put wax on Rapid gold deposit
+ Cu plating so can use wax
low friction wax + would
it in 3 hours to test,
Try amalgams Dally

After get by mine newspaper
start in Chamber for Samples
stop jumping of Ball —

of Fuller's Spring
the Amalgam wears out
time effaceable

Sept 20 1909
Try varnishing Blackwax cylinder
with Stearic Aluminum dissolved in
Amyl acetate or other slow solvent
with + without oil to get a new
Tough + small friction record

Expert on Chamber for new
speakers —

Goodwin chear new Eng Record

Try a strength lacquer on new
Spider

GWA about Viscose +
OXZn mg as filler for
Veneer Eng Record —
policy not plaster Paris.

Possible Dam Viscose Mg or Zn +
Steam + Coloured Fac could Kelly?

Make by Ball's stop jumping

Viscose itself could be spun & dam
cleaned + taken out a spool on mandrel
best poly ZnO or MgO best, Carbonate etc

Make some Tetranap + Saturate NaOCl
+ dip mould at end cool + take out
then plaster pans —

Speak Dyer about Bally
patent Rubber in dye
for pressing pts are
used by Nicholson + Cohen

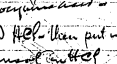
Chorlemen to work on
an odour that will
overcome Naphthalene

Treat flake in various
ways to modify surface
[39] + put up 2 bottles Cellu

See pt 24-1-1917

flake submitted to Chlorine +
Bromine Vapor to react with
Chloride or Bromide — spring
dilute Cl + Br in Gasoline
SCl_2 in gasoline — H_2Cl_2 gas
Made amide in $NaSO_4$ for material
treated Hydrocyanic acid —
flake in acid HCl then put in ferricyanide
ferricyanide mixed Cuttel also Ferri
Hypochlorite, phosphorus and

Worth put spring between leaves &
back



See of Board ok

Eggleston to make Long lever
to scale say £2.5 — do —
1000 step required to 1 made
a study balls etc for about £1 and

ask Dodge if some
oil doesn't get on our tubes

Dodge about 20% S.D.4 also
longer time on Cu.

Holland Eclipse has room
& fit up in grind style for
Endurance & Central Temp
Cuts 2 to —
Ask for Curve sheets
Cup and rating —

See if G have 24 36 48
if 1164 dump g than f
then temp —

Ask Archer how long
he been using irons
from Slovenport Mfg

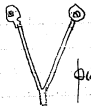
Ask Archer + see about oil
on Cups & tubes

Pierson
15 = perhaps big track weight
vibration action & reaction equal
(16) Reader Cup rebounds from track
less but whole don't leave way

17 — Side motions give jar — also
variations of power due to
side motion given by cut
adjacent,

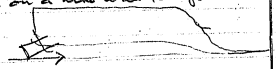
18 - Angle of knife causing
drag in it causes wave
thrown on dia by flow
Lord waves of Chordal
Run Curve selling defl on Cup + def
Hand knife — 25 perhaps it needs
one [illegible] can't be thrown in dia but it can be
in lower

19 Deep indents meet sudden friction
in going into way + then sends a jar
works back to die which is not wanted
its a sort of a rebound to due to
elasticity of way — Dallys or Gallos
elasticity of way — Dallys or Gallos
way recovering def waves —



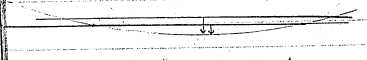
Pierrin proposed underneath

17 Continued the spring of lever must be on a line with knife



possibly should be below Center -

19= amplitudes of dia too great.
To check excessively strong notes + also too heavy



just as sensitive for very weak notes
thus length rubber pally does same thing

20 Its the Echo - following a loud chord - etc.

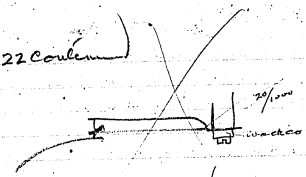
21 Supposing knife + spring of lever on a dead line - the edge of knife is below Center + digs in - try dif positions relative to the Center, tools cut above Center think the edge should be above center + fulcrum of lever below Center

So not dig in

22 - Spring of lever too weak the knife digging in makes a chatter from increased friction or worth thrown on lever by a chord

Now that lever + dia is balanced can have stiffer spring or very much shorter over.

22 Continued



24 Possibly if the cutting throw walls on long chord and a all speakers break to one side they must give a few false waves

25

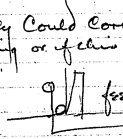
The link + arm not dead perpendicular if cut the slightest it will work a side. cut + together the speaker

Suppose this ok if knife not set a dead right angle to record way it will put a side or rolling cut which will give side motion to speaker

26 = Heavy chop cause dope to give it rings + you have a true dia motion + a dope motion. all viscous dopes give a little before they pull heard –

Dodge why not curl the flake strips before you cut into squares

Probably Could Corrugate before cutting or if thin stack flake together.

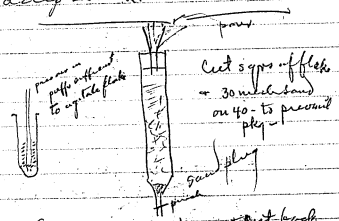


It is not a matter of infinite which cuts upon cut the least.

You could bend around a
2 inch mandrel cut
lengthwise —

Wattles Cruder — 48 grain 1164
2 lb Bi flake — 3 lbs
21K 1 Li
Dup — 21K 500 mely Li
21K 250 " "

Also 1164 48 — 159 f
21K 1 Li — dells 500 mely Li
dells 250 Li —



Simply wrap 1/2 hour + put back
to get air + circulation —

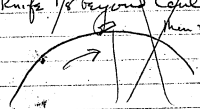
Obtain paper coated Shellac
1st pressed draft by rubber
so spring back when cold —
deep cuts — dells for duck spiral
patent new Jetra

Dodge 150 sheets or layers
metal 150 —

Wash the sticking grain

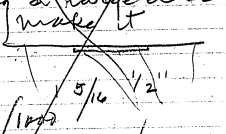
Pierman Irack + run over
Record come back + rebrack
+ plug piano
also try 5/000 Ambrand
Knife on 100 thread plane
Track deep alone on
Aluminum Lofter Record

Set knife 1/8 beyond Cylinder
then no dig in



Study Chips from Records
see really how Knife works

2d Possibly there is Po
Molgms to dica from,
not having a large disc
in Center make it
thus



both 6/100

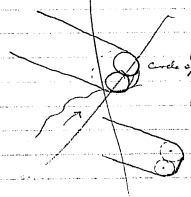
7850 Circular Mils of iron Po
Milgram

2d Picam

Spring must be
cut Exactly
~~with [illegible]~~
proportional to Dia

Whiten a Record. Generally
with Vapor Sal Ammoniac &
Reproducer also see how it jumps

Have a reader point made



Made

Walter got some fresh Cals
S But flake & make 2 Cal
Cells see if flake OK —
It may be Polgms Mg in Legard
Caused Mg to reduce Ni &
make bad flake —

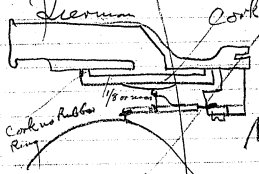
Smith about W. Ratchet with 4 tooth or more teeth so will not have to Ream for M. Machine

Tell Dyer about 3rd Notice from Way to put for escape on 10 5th axe

Retry the 3/1000 Celluloid & see the dentist to all differences think this is coming real so good as 6/1000 celluloid

See if old John clock can be rolled wider by heat.

See photo department of he is ready to put Emulsion on old clamp —



Have Wrecker fix up long tube machine to dump film & Tank also to have an extra Tank with the loose weight on it may be that Dodge loose will act dif from a solid tank

Have Archer make 2 tubes each way

Try in new replica Corrugated Dia done
wet & dried in moulds,
Try Shellac Naphthalene also Talcum &
diatom out Mag or Talcum
with a non solvent for shellac
to get a porous diaphram

Dia Inverse + MgO, dry + steam &
then heat with acid to remove
MgO to get porous dia —

Try Gum + Syrup dry glycerin,
dry & Corrugate — for Dia —

Set up 3 each 854 — with
1½ Li + one Li —

Make Dia Cork with 1/16 holes &
paste paper over to cover holes

Pierman Try Corrugated
Hard Rubber to cut cord

Cut 1/32 wood across grain
spruce, White pine Hardy

Corrugated Blotting paper wet
& dried in press —

Try Spun hard ~~record~~ rosolenal —

Cork cut $\frac{1}{32}$ 2 of them + one put
over the other + cemented by
Strathena, pierman Rosin BS etc
to stop holes
also 1/32 Coated with thin
film dope.

Make flatten out wire
+ hook in bent
lever + Dia so no spring

Equation Determine angle of
lever on wood model

Dodge 6 tubes rings on light
rings on loose as new sand
drop run —

Dyes abt patents
on Shellac Nap &
Tetra & new reports
Tuylinson Opening
Construction —
Willers, Berne Corn

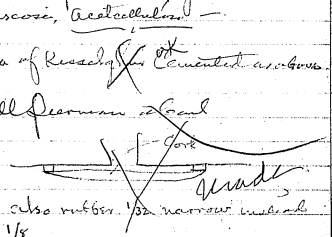
Drapers Solid Kissolgum
Lycopodium & shellac or
gelatine to bind —

Oct 24th 1907

Lycopodium
1000 grams Nat 60 ol salicylic
30 sugar 15 mucilage heavy
595 mod #20 alc, Ether Tinct of
Cold Liq. — Lock Logether with
film dope — shellac & Gelatin
Viscose, Acetocellulose —

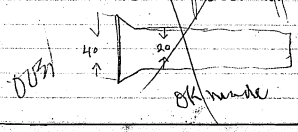
Dia of Rosedale ~~Cf~~ OK Cemented as above

Tell Freeman to find



also rubber 1/32 narrow mod and
of 1/8

Wilson - Make 2 of this Egg beater

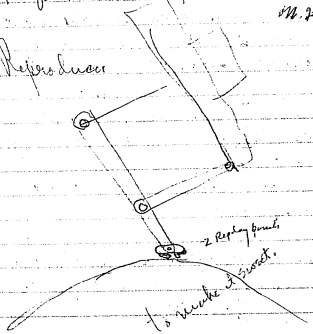


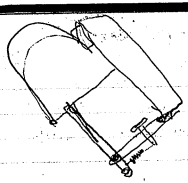
Oct 25 1909

Go away with Scratch –
to throw out material during

When get cash will use 200 (Wood)
Knife – Portland cement w/ 3 of M. 2 sand

Repairs Incr





also 005 needle weighed 13

Walter Dry 1 tube old way washed
green distilled dump of Hoof Tamp
also unwashed 854 – Cut open

Goldstein wash nearly free
Sulphide Cut leaves 520 NaOH
in –
also 3 5 7 + 9 % Bi
precipitated

Ask Dodge what he pays
for Oxygen – also Magnesia
price Oxalate –

flat flake our wash 2 tubes
as it is + 2 tubes with fl
acid treated to remove magnesia

Moyer to figure on Deschler's
possibly Column in place in the
whole - with good sectional form

Dry. ~~get some~~ Red ~~Red now reduced~~
if can reduce to Magnetic by
liquid cheaply reducing Gulch.
also some Heated reduced
Fe before Hg put in see if
Much Metal or what it is -
Try very heavy pressure on Red now
~~get~~ reporder see how loads of
reduced by Current, with or without
Hg -

Oct 26 1909

Archer - 2 tubes Reg bottle 180 out
then add def amount of crushed fines
then 150 - 4 make 2 tubes Each increment
see if loading up short go up +
also capacity -

Dry Try if acid and Sulphide K
will do Bi Ox or Bi Sulphide, + how
overall summit acid will carry
summit % of Bi.

Send to Wells crushed 200.
Thread Daughers to get
diamonds -

John make a grid thus
Reg Fe pocket but 3 wide but 6' compartments
fill with Fe + compress 300 others
+ Chg See if holds in - to do
away with pockets

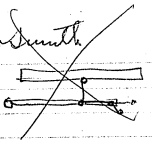
Dry Carbolic acid in Viscose
then formaldehyde or dry
the Carbolic Viscose then
formaldehyde + steam.

Bismuth Citrate Sol. in alkali
Sodium do
Bi precip by NaOH if glycerine
is added precip redissolves
NiOH dont dissolve in the
alkalin glycerol sol.

Bi Na pyrophosphate is
probably sol – not sure

Monosodic pyrophosphate dissolves
a rather large quantity of Bi oxide
also. When Bi hydrate is washed
with Na pyrophosphate a
double salt is formed

Dyspepsinth

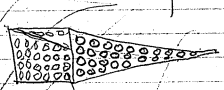


Patent

Bag for cough in pocket

Tea Oil make cup for 17/16 19/16 19/16
13/16 15/16

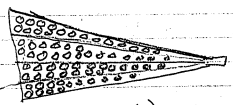
funnel to tone down fundamental
waves without diminishing swell



funnel square + formed of any
wood with holes 1 5/16 dia same as
Drum board over whole surface
+ Coated with wet drawing board
paper + dried to make it light
over

The height of wave will be diminished by doing work on the diaphragm which will return a wave to funnel + also wasted on the bird. The weaker waves accumulate overcome inertia of diaphragm + will record —

Also

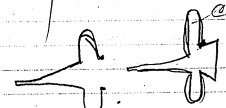


Cone — wet paper stretched over

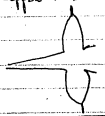
Make a 36" funnel of the thinnest paper possible — round also

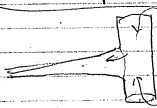
4 four corners

for recording waves (wind this



to get up a pressure —
to stiffen wicks this





New idea

When compression comes it compresses paper outward long above paper thin wooden rod
Rotary — hence help + prevent slipping

Try some flake just out of the blue liquor. (Not centrifuged & dried not washed before drying —

Heat flake in Hydrochloric Acid great reducing agent.

Hydrogen.

Hydrofluoric acid

boil in sugar + HCl.

" HNO3

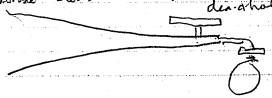
Plate with Cu Ag Co Zn Fe. Sb, ~~Sn~~ Cd. Pb.

~~Prove the tin plating~~, Boric -

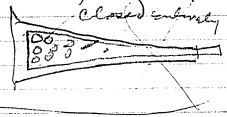
Arsenic acid,

Iodine ~~Br~~ CP, Hypochlorite

Chlorine water. dis-chate



Wulfe washe tube with 179 f only then recovers & washes 2 times



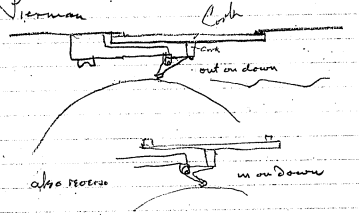
Dryer about growing Bryum a good vapor & heavy bodies along new Reader Wake it big Quakers, to go into Mahon Bric Co on 80% no 20 to Co.

Make flake iconde in HCl, for short time,

Heat flake in $HgCl_2$

Idea to make 2 or 3 Records of Zelva on smooth cylinder & have Fred OCC turn them off - to record on -

Pierman



Make but heavier metal

for recording - size as now - one 3 ft & 1 6 ft long - hold to same lager

Wholesome 1/2 records out of amalgamis - of OCC - for recording

Pierman Thicker dia & increase leverage in proportion - go as far as you can

Weber not wanting other than R.H.T paper pkg -

Gravely predicted Bedfordfeds out of it altogether to get Water white -

Get new oil of Nabh, -

I see how much Fe in pulp -

Already
Sulphocarbonic acid by
Decomp by HCl of a Sulfocarbonate
of a heavy metal, H_2CS_3
Yellow oily liquid thus may
be better than CS_2 to act
on Cellulose K — Gmelin 3, 8, 76
tells abt Sulfocarbonates

is CS_2 act on K in Amylic alcohol
forms Amyl-dianthocarbonic a
~~etc~~ by decomp it with HCl
get pale yellow oil

Try Iceland Moss & Cellulose
— try alike Carbolsulphite with NaOH & CS_2

Dextrin is isomeric with
Cellulose — dilute glucose
Try both with NaOH & CS_2
& make film perhaps
may not be brittle

Try Cork — pith, agar, Irish moss
starch — Cotton seed shell prod cellulose

perhaps Cupric Chlor Sulfate
would dissolve Cu warm if air
blown through liquid while
hot, Dry

Sol K S. Picrate made by dispersing
Molten S. Picric by blast of
air or steam,
Wm Gossage & Sons Ltd Widnes
England own patent, write them
for specs — on K S. Picrate

Filly of NaOH & K S. Picrate for Dry Cell
mixed Cu Dry Chlor & MnO_2

Get the Radium from Holland
& Anor Lons cell Cat
otns from Rumb for Electroscope

Kufar
Condensing Water 120 - Run over
brush in Bldg & pass air into
Clock House -
Hourly about running hours 1/2
or 1 1/2 after this is done

Galbstein - in looking down green
Save H_2O by condensing
also see minimum coupling time
in precipitant -

Margaret K ~~Orlando~~ -

~~Fla~~ Try Tungstobor in acid in
S Battery - Dead Islands
Salts Inorganic Sol 100 pts Sol
in 8 @ 10 pts H_2O

Glycerol + water - Try Sodium
Glycerate + CS_2 - Says Is
Viscous - ~~[illegible]~~ strongly to
dish -

Try K phenol + CS - Also in Islands

Sulphonates - acting on Hydrolene
+ mixtures - Petroleum Sols, Viscous
pulled out threads can
be melted etc

Phenol boiled with Perox lyd vapor
grows a vaccinate
Naphthalene Sulfo Sunline Sulfo

Gramley Dichyrese Moose Through
Coarse Material

75 Cubicft air well furnish
O to ox the Cu 5 Lbs and
a 15 lb tabak flake -
a Column 3X3 15 ft high -
see Dodge abt oxidate fm
Mangan

Br adds on CS_2 - see if $BrCS_2$ adds
on Na Cellulose -

Vascaloze is refract Lorka Cellulose
fibers of 10 wood together 18 to
40% on 10 woods Arrangement
better Lorka this wp.
to get t pure cact on Glass
Path with the Reagents
Try Cork Na & CS_2

Press the small Calcinde Lime
300 atmos & tab -
also try Reheating to
150 to 300 Cent -
Try ashing with Smp Cu

Ypwa Graphite acid for black
ice Hydrosapholac

Viscose film of Blueprint solution for
Position - have given test it with
a picture film

Melt Glenna a with the bases
sized from Dzff & those 9 has -
also Montan

NH_4 dont dep Cu_2O or CuO -
Try in Calcinde of Mg add KCl
or K_2SO_4 - The NH_4 will dis olve
the ZnO & Chromit

Try Pot Cotors, NaOH & CS_2 -

Purify CS_2 by agitation with Hg

phosphorous Anhydride action
Fresh phosphorous on Amber
white amorph solid insol. H2O
MP 87 neither acid or base
& not affected by acids or
alkalies in the dark
1885 Chem. Jl. 254-5

Gravity Squeeze/Celldoock
out between blotting paper
or cloth 300 atmospheres
& Try — also after this —
dry further in closed jar
with phosphoric anhydride

Get some gas coal for Cameron work
see what can be extracted
by dil. KOH & organic solvents

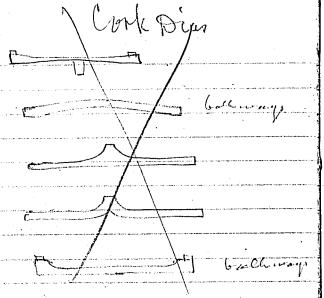
Oxidizes Phenol by K permanganate
MP 122

Azobenzene — a Black Resin
of tool of phenol in excess of 24%
aqueous NaOH be shaken in
the cold with Nitrobenzene
liquid turns red on heating
pot black after heating at
150° Cent for some hours
Na Oxalate salts out & azobenzene
remains in leaches degree
with Na2CO3

Premium Pay up one inch
Cork screw dry —

Gold Silver figure cost of recovery
of Ni from Mg with Oxalate
globules pay ~

Cork Dips

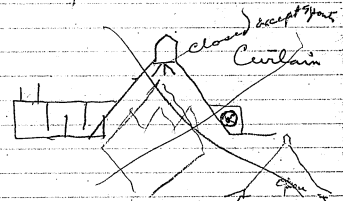


Drink a yellow record, Maying + see if proof tracks or is it jump out more

Plummer some of recorders with Knife -

Put some of the book that wouldn't Come out for Copper -
also put back in solution for several hours & then separate by small separator —

Holland Lactic Sulphite Na
Lactic acid
Rollan Formic Na K
phosphate Na K -
Greatly by Mercaptan on Na Collodion



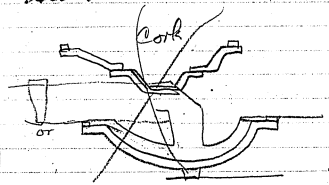
Circulating Conveyor on No 1
perhaps No 2 - perhaps want more air in No 2 that is high in heat, or a cheap Exhaustover baffles & plenty air -

Washer set up 3
of Goldsbrow removal 8.30
BG 0.48, 2 CBI 159

Goldsbrow make some
heavier yet with NaOH
NaOH, to get 9000
to get it pulled up 6
at 36 48 = 60 –
159 + B1 – dup 1 L OH.
also

6 in group 1164 –
Single Ti – 96 only dump
to find out greater or Co
left – 2 L1
Dup 1 L1 –
Dup 1 L1 + B1 – 2 CBf

greenish – purifying with alcoholic
K – also dissolve out with boiling
alcohol – also try 20% NaOH
def temp on the alcohol, NaOH in
Excess –



2 Rubber – rubber 1/2 width –
3 + 4 " also

Wesson –
Small turn table for cars run by motor
Can have 3 or 4 in tandem

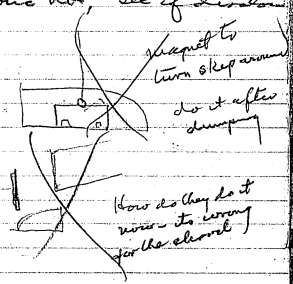
Dry Exhaust Cotton with alcohol
by Soxhlet, ditto alcohol then
Benzol, ditto Al. Benz then Ether

Exhaust alcohol then hot
alcoholic NaOH, – then
wash free NaOH, & put
in new NaOH, drop in
NaOH with Piece Na

Try following Oxidizers –
NaOH,
Permanganate K
H_2O_2
~~Acetic~~ Hypochlorite,
Nitrite K
Ferrocyanide K
Chlorine
Ferric chloride
Ca Hypochlorite

also – acid sol.
Chromic acid + H_2SO_4 –
Ba Sulphydrate depilatory –

The white hard phenol formaldehyde
most unmeltable product is
Cellulose in Nature
file some powder treat
with NaOH + CS_2 also
Cupric NH, see if dissolves



Dyer Bilbao Map pressed, not
leaked cheap box. 25¢ 60 ft.
If can get cost to 4¢ delivered
by fall —

Walke make 2 larger
Dyer funnel mouth
in Large Dia. Dec. 20
see if can get it louder
[illegible] — if have to increase swell
[illegible] expensive funnel to do so —

Selections from the Dyer
Drum.
4 in 342 — at home very
low & thin — ditto 332
Song Mount than weak
339 — Violoncello — low & accompanied
& can just hear — 333 Violin
Hard see how it Compares
with one we took on
good repairs —

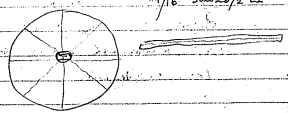
Dry chamois rings enclosed rubber
ditto 1/16" rubber tubing —
when using Cupped Cork
use

Grant to keep chamois swell

Make 2" plank box to
go into & revolving
shutter adapted to
measure Vol. of sound

Pierman — Burnt Rubber —
Castor Oil & Boiling 3 gal. bottle.

1/16 Sound 1/2 in



Look up Whitehall Tatum & see cost
2 gross 3 oz glass stopper
bottles – or the small fruit
jar tops –

John Ott to build us
grand ambassador Record
Taking Machine –

Harp solo 9500 – 2 min –

Centolz – Architects, usually
book. Story Ada in fine tops
20 jobs –

Fred Ott get fine grade cork &
make 1/16 cup but cork only
40/1000 thick also one
1/32 thick –

talk to Cement Boys desirability
of grinding 3 to 5% fines of
flint over Company's great to
get a grinder ect.

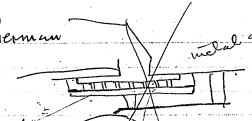
Fred Ott fix up Carbon Trans & Emg –
for trying pians on phone

Have Moses get Daywell to
see distribution of men
every where

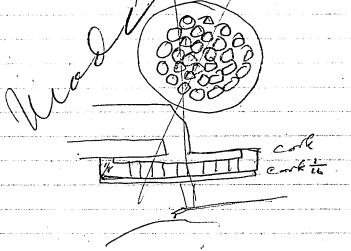
Dip tube in Sandbrooks Ammonia
Were put in Cell or run
Insal Kjeldh given off wards
apparatus slowly formals
Kod,

Gravity try oxysulphide Carbon
instead of CO_2

Pierman



Cobalt of upper ½ Cork Disc
Covers the plate with holes



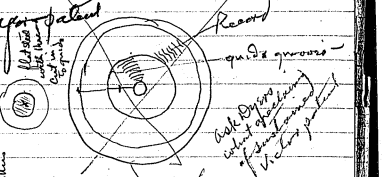
Generally use dog tubes same
K Cellulose also use mix.
If 15% CS_2 with Tuber and
much other vehicle liquid
in which CS_2 will dissolve

also one in which H_2S passed instead
of using CS_2

Dr. Y. dissolves Cuprammon Sol of K
Containing Dilute of Glycerin
then Collodion put in well
remove the Copper

Ask Harry Wilson Battery
Bonds are due

Dupont patent



Try 3 of Wright on Genee Bug
and report with cost disc

Fred Ott

See ~~Wisbar~~ or Kearns ~~[illegible]~~ man

Try grinding in checkmund

Like the Joyce hardness

200 Hardness —

Write Kung where to get clearance in Diamonds — ~~and find out who~~ polish diamonds in this Country —

Cork

Bellmont

Ask Dyer if we can patent a Diamond point in Combination with the hard material —

Fred Ott make frame for 2nd Dies

Pierman

1/8 dia glass lapped 1/2 1000 —

Dyer = If Victor wishes will not keep latest arrangement - you fellas look out they don't tie up all common titles.

Cave - Dry Fabs

Dry Ice Cut at Stevensville

Say Westy [illegible] chamber can flow lubricant

Cover also

Rotaid [illegible]
or [illegible]

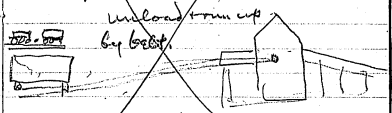
Write Wills asking about diamonds

See GWA - presently to Spunning
then can require rotaid and recorder
also smoothness - just as quick

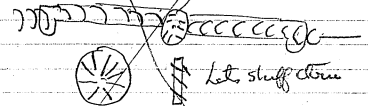
Make some Shellac Mop with
best deodorizers of
Christenson —

Cleaning Disinfectants
S Rose Co
12 John St NY

Remember,
unload from up
by belt.

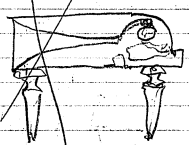


chilled deck



Let stuff drain

Evaluation Redesign and
Model



Make 3" disk 7/1000
Corr. 10/1000 - dep. Nap Shellac
Wear holes, see if OK
Try soak Blotting p + pulp
in Napsheltc. Coat - press
hot - then Re dip -
also Cotton Batten dipped
shellac & dried then press
Hot - + dep Napsheltc.

Generally - Treat paper with
Arsenic acid - soak it
wash free of them NaOH
also with Chromic ac -
also Try Boric acid, dilute
Phenol - Trichloracetic
acid, Lead -
Try dehydrating in Castor
a Linseed oil - also,
just to brown in air

Try Cutty Cellulose with
large quantity of most salt which
will dissolve out in fine
Cry to keep from shrinking
when drying - also
glycerine, Pyrogallic, Phenol,
Gelatin - glucose,
Caramel,

Try Oil gold all kinds Cardboard
Thick paper - Tappleson dries

Try reinforced plaster Paris,
wire 1/2 inch mesh No 20 wire
also Cement, sand + 2 + 3 to one
Very fine & sand with + without
reinforcement,
Crude Iodine with and
Cement Chalk mixed hot

powdered Wool & powdered
Spindelmia mixed together & pressed hot, from Montana & Calif.
ditto Sleeve cuff, ditto Al. Off
& Co., ditto S. Off & Co. -
Borden & Co ~~[illegible]~~ ditto Rosin Co

Dry Sulphur (flour) &
clay - ditto chalk, pressed hot

Viscose ~~[illegible]~~ stirred in
paper pulp - pressed & stamped
after drying -

Drop Cardboard in Wool
after dehydrating -
Wet drying Rayfloc

Powdered Kauri with clay
pressed hot ditto graft
Chalk & Kauri tough -

Map 1 shellac 1½ = gelat

~~Disc = 50 lb batch~~
~~scrap 15 lbs ground~~
~~Shellac 6 gallons 12 lbs~~
~~Drop black - 1½ "~~
~~Collan flour 2½ lbs~~
~~Rattling Stone 10 lb~~
~~or infusorial Earth in that~~
~~case only 6 lbs -~~
~~Rattling Stone Sand~~
~~ground screened 50 mesh~~

chick formula	5	lbs	
Reground chicks thru 50		17	00
Rest Bullen 1cc		17	4.25
Cotton flock		4 —	50
Dry Glock		3 1/4 —	5
Mix of water flicks			
Rotten stone + pipe clay		20	1.00
15 Rotten 5 clay			$5.81
10 cc lb		59 lb	
20 only 10% Rebuing		or 10 Record	
start mix 1 lb 14 cents lb			
Rubber rolls			
work syrup + add the shellac			
2600 lbs press per inch			

Dry Viscose, then see if
Soluble again w some
Organic Dyes in dip, Amyl &
Mercaplan, & others —

Form Pierce and Naphthalene
Compound, Cotton dessin
Gt O —

Waterglass 33 Baume Stir in Chalk
until Baume thick + plastic hardens
in 6 @ 8 hours

Dr Pio —
Glass Block Norwalk O

9/15 — Asbestos fiber & Schedule
Zodex Dyes for dipping —

Make point w Clear Viscose film
by Cupric Ammonium Solvent.

Dyes + Water — How about Glen Ridge
for this

Write Morris to tell me map of
where he has been so can put him
around Berkshire + Long Island Sound

Cement -
Things to be improved to get
Repair cost down —
RR Cars Remedy steel
Arbors on Rolls "
Logging pulley & Conveyor
Gears on Coolers hardwood
Worm shafts Lucky 125 126
Screw C Gulgarous
Locks on Crushing Gym
Repairs Bay Carbonal [illegible]

Arrangement of Zn Pb & Cu in
wash water flake Crane

Guldstein - precip
Mg with 1/4 1 1/2 1 + 3%
of all metals - Some
Organic - no wash
Get Load wt of
Be. Mg Ca Ti Cr Mn Fe Co
Cu Zn Ag Cd Ba Di Yb W
Hg Pb Cd Sn Mo U Y Th

Holland Small cell suspend
Radium tube within liquid
see if affect Valleyford
Capacity —

Lowell = flake flake
Au Tin Ta

Robt ~~[illegible]~~ by McCarthy
52 Wt Vernon Ave Oranges
Boy found Ring

Wolke Expert on springs
to assist design.

→ pulley angle too good
should be steeper —
Have Eng measure angle
on this from my
drawing —

Examine The high fidelity Reproducer
why it is so Comfortable — → Show point

See Dyer about Aitkin on Penny
J Ott make grinding mandrel for
disk = How about disk man
~~[illegible]~~ How he recorders why
not Ott make 2 or 3 –
+ see Dyer & Weber together about
buying tools in Canada and
Reg disk stuff – work up also –

Find out what Dally doing

How is dealer for TESOY getting on

Pay off 2 works Bol & get him
out & so can move down

Smith + Self Reder for McLoodd
Facing on plunger with rotated to face plunger

Walke make lever 1/2 long
by 1 1/2 in new Reader – link to link
but 1/16 rub possibly loose one end,

Marson, Case hardened gears on
Cooler to stop wear
Also send me list of work
Marked off what improved &
progress – correct back work

Egg design new reader for
Cylinder like new disk has thread
but first use some shaft lever as
on disk –

Take 2 off 1/2 Hg Fs + send to
RR to run them off + weld
heat as req now set up
to return –

Egg design for Pierman over
to new Reader –

Billy Bee stop [illegible] damage
[illegible]

Arches Troy ~~Expert fitting division~~ 24" tube for flake & green ~~also find green off~~

Put some Hc mud cement & gravel & flake together with water in rotating 6 tube rack of brighton

ditto in 24" mud mixed in hydraulic

300 cat morphine see if brighton or stiffen

Shake to flatten green, flake & dry 2 or 3 times — if good by 4 4 44 1164 green 6 tubes

Mason sent me a good sample of the big Dyke (not weathered) —

Crush down Dyke stuff true glass plate for Drachmann

Why Dodge? why are we getting 15 carbon Distilled water days for Strophanthus — why not get big still

Weather Arches during green

then flake 3/4 4 4 twice then lamp — 6 tubes

ditto 4 & 4 8 twice then lamp 6 tubes — 6 set up Cat one

Each then 8 days —

also 24 & 4 3 times & lamp

ditto 48 & 4 3 times & lamp 6 tubes

6 tubes 1 week to be cat open

use on 48th 5 L6 lamp —

Christensen & Cassler & Gum Kauri very thin & lampblack various proportions — ditto Cant strontia, ditto Iron white — for Pressman

Put flake then Roll several times not to brighten but to stiffen see if it want stiffer

Polish marble 3 tubes & Troy 159 Reg & 8 94 — also 3 tubes polished & 159 ll lamp & polish

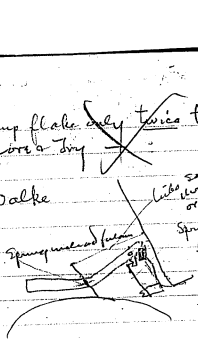
Jump flake only twice to pack
more + Try

Walke

like saw warm
wrench - ple -
or L angle

Spring to take up
load-motion

Squeeze-roller from



Makeway Edmund Lut Chem for
Holland - Holanka Eggs
Wells Dic + Wenck + Schmukert

Explain to Claude Oglyby
about pumping from road
+ abt leaving Wales, + Risers

Risers in middle Each
floor for pumping +
quick closer hinged lid

greenly - to stop crystalizing on drying
Try little glycerine, little gelatin, glucose
but tired of all in to get rid of the NaOH
not except that combined by using
alcohol or Sodium in NaOH as
then putting Coke in EtO + Chain
in Vale -

Speak Billy Boss Carver for 1000 lb quick
delivery wagon 40 Ah - cheap for Butcher - Dunnes
chief selling - plan -
great seller. 12 miles hard

Try Sand only to separate flake up + out
of Crock — or bottle get bottle that
one residue + Cant be separated —

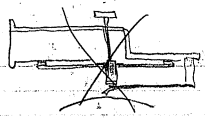
Clyde Ryan why we cant
Rent fellow in Argentine +
Australia —

Unpleasant Combine with Picro Ca
see what its like -

new Wheree put up on the McCellular
by CO_2 tns in "Abracadabra"
or potassium - spirit - dry bottom +
solvent squeezes out

Sump + hand pump
+ Lung + Cleaned clean
+ 75 Gallons

Pressman



Make test of Solutions that leave no precipitate (2) alkali or Cyanide powered Zn that dont dissolve — & not attack Cu_2O or CuO

Holland: try Wainquartz K & Na alone No free Na or K — also Phenylate with some conducting salt,

Talk to Dyer with Tourfort Boss about selling agents for pleasure Vehicles Manufacturing Lawsuit

Talk to Dyer about Tuesday up a big trick big auto all over US — 102 Small Motors Complicated + small parts — Get final cost — 12 demonstration vehicles 1 Tourfor auto —

disclose the Bomb Sequelum now on glass in hot H2SO4 see if needed in I

At New Rochelle on Long Island Sound 120 Sequelum & Empty Cylinders against Greene, 400 ft wide —

Prot the heavy (black painted) and Bomb bonnet of Chinese Rocks

Smith about rocket to hold temper controlled by cam on rotate wheel ditto Cam for feeding in fl + grease so quick change —

Req 7½ grid Cups + Scale of pressure use strip Zinc (Mg) + put up cells with Neutral or Alkaline Sulphate only the ZnO not dissolving try CuO In + strong Sulphate Zinc which dis ZnO abundantly

Walter Archer the rep. for Europe & pack in all the Films with 3 & 2 L3 4 & 5 & 6 1 amp & put up with 6 M - measure them after Coronation

Dyson why cant we print 3 or 4 of all our subjects. then send Copies to Europe, Argentina, Australia & get order for future release dates, also to make arrangement with Biograph Subject Room if desirable to handle in Argentina & Australia - this would be 8 per week & would supply the Market. We might even get Pathe in Australia.

Billy Bee What's matter with 20 Cells A4 for City Runabout work - to Cheaper to the Bat & Thistle - Wrong wheels - think all the London runabouts should be one wheels -

Ruth McEnery Stewart Stories - Reads darkness & dawn

Patent on cylinder Records

Collodion Cellulose

Dried cellulose treated with H2SO4 50B - see no use temp - press from wood by water alcohol & dry low temp - gives film Sal Not worked

M-Nitro-benzaldehyde forms Condensation product with 1 mol Benzol 2 mol phenol Little more than 1 mol dehydrated Sulphuric acid Carefully heat to 130. C. amorphous powder MP 60°; only slightly sol Hot water

by heating to 150 C M-benzaldehyde 1 mol Resorcinol 2 mols. MP 97-100 feebly sol boiling water.

Gravity why not add in Collodion with Nitrate at dif temperature, and long time by putting bottle near hot plate dif distances

To stuff in clear CS_2 add little H_2O make it little thinner, then take some off on glass.

Try all the Solvents in Alkalized Collodion Clear Solvent, —

for organic Solid substances dissolve in Benzol Tetrachlor Carb - Alcohol —

Mason Must have something to Start Rub Rolls. —

See Dodge, also about making 35 old fellow the machine about getting his drafting work under Schofell — also arrange with Smith for some + also Claude, + get, Sheafel keep records all work to get system started also tell J.V.M, Wally + everybody ✓

Waller Analy press flake Tonics in Carbon bottom 3/4" Moved to see if brighten —

Archer group of to 40 + 4 1164 - Dump press Use of Mon Tamp

See Claude of new big ground house Can be used

Cement in Pot		wt cubic ft
Stone	1.25" cubic ft	85
Sand	.50 "	95
Cement	.25" "	92
Clay	3½ lb	
Water	3 gal 1 quart.	

12.6% of whole is water

Dyer packed dusk pot sec'ondary + gum substitute - about Dodge ~~& Wocher~~ + glinster

Treat some slides rubber with alcoholic ROH, see if anything comes out!

Dodge - in making up cost of material for cell can be accurately ascertained after allowing for waste.

Gwa - 6 records - Maying & Jenss. + Mozart Rope op 2

Walke - Connect dead with lever rigid by flexible or small wire - steel on record makes run out bad also see if pointed screw lock on spring fulcrum is necessary

Try some 12 drop shellac with ZnO, SrCo, graphite, MgO, chalk

Put big photo in model pour grand cumberlands -

Have Dremel put in a 4 mm new style -

Make spring fulcrum new regular 1 5/10 diam at long lever

See How new regular pulse with making get along

Push Grand cumberlands through Schafal + restrunk

Telephone Arnold Graffin if they can supply drum chlorum yet

Dodge - How get long with
Estimates Cost of English plant

Compare Holland Cell Curves
with the 9886 numbers of good
Tubes Lead cells & see what is
Comparison of Loss to get some
idea of Values of 130 Tubes —
Ordinary temp, 75 50 also
not below par — Also compare
the 48 1164 with them —

Look up the 36 giving tests see
if they show better than reg
or no good.

Put 2 charged tubes in water & change I
frequently until Rust appears
+ KOH all out, then put in
21 + Run Reg — from old Coop.

For dissolving Celluloid use
acetone, chloroform Chem Soc
Jnl 1888 810 — also Jnl prac
Chem (2) 37

Harry Miller How about
Stock of Motion Pictures Pat G
or is there stock — how
arranged —

Take a Reg or 2 that gone low
+ charge to limit then remove + put
in water until Every trace of KOH out
so it will go Coll. & then dry +
put back to Run —

also run Bicellos 2 in 1/4% KOH.
several times, dump + then put in 21
+ run reg —

Charge 2 Irons Reg battery 7/8
after Running 3 times
charge + take out + allow
to self heat in warm water
then Charge again take

1. out of self heat on 2nd charge
take the other out of self heat
3rd charge the other —
put old back again
& Run see what
occurs — Weigh them all
1st —

Try Acetate Cadmium on Petrolac
Quinone precip with basic acid lead Quinone
Succinate lead basic & salt Sticky Cadmium
Tartrate lead Gelatinous
Hexamethylene Mg dibrom Soft Tenacious
Tribromethylene Na precip gummy precip by ETO
Sulphonaphthalene feldspar Transparent
MP 70 Cent.
Silicofluoride Mg Manganese gummy
H_2SO_4 Converts Carbonates sib to Plain
got some Balsam Peru, drawn threads
Benzoate glycol at 40 C drawn threads
Thymol abouts Mg bottle at 100 C (Have threads)
visin Mg bottle 10 g, threads

Dibromosalicylate Pb - Tough gummy mass
Cinnamic acid acid Cl. Tough gummy
phosphomolybdiphosphate Tenacious Transparent
Furfurine Tough Transparent

Nitrate KOH with PbO_2 dis - charge PbO_2 on
pale Pb after any time black large number pbs
test V & Cap

Glycerin dis 30 pts $CuSO_4$ - 35 pts $ZnSO_4$
Hydro dry bottling -

Oxychloride Sb MP 85 C
Magnesium Chlorate 40 C

Take some 1164 & test the 17% Bi nit
or make Tubes 24 36 & 48
also get some of the 17.5% &
make 2 tubes 48 drop green
Clear & then let stop —

precip some Vanadate by glycerin
dilute phosphoric acid Na Cellulose
free of by glycerin free NaOH solution
Sp Gr 1.052

Acids

Malonic	Citric	Sulphamic
Succinic	Fumaric	Sulphonic
Lipic	Sulphite	Sulphanilamic
Adipic	Hyposulphite	Sulfanamic
Pimelic	Albumen	Chlorobenzoic
Suberic	Gelatin	Pyrogallic
Anchoic	Sugar Crystl	Phthalic
Sebacic	Grape Sugar	Cresolinic
Formic	Mucinic	Salicylic
Propionic	Oxamic	Fluoboric
Caprolic	Carbamic	Hydrofluoboric
Carbonic	Sulphanilic	Bromoacetic
Acrylic	Anisic	Bromic
Uric	Chloroanisic	Tannic
Oleic	Nitroanisic	
Cumuric	Trichloroacetic	
Picric	Iodic	
Picrotoxic		

Precip Viscose with Cane Sugar -
Carbonl: Silicate Soda, Gelatin
Albumen -
Use thick Viscose put on glass
thin + immerse - 2x2 glass -
also actual precip using
Viscose + Fallow thin Salicylic
try $Al_2O_3OH_3$ Trihydroxide -

Look up A4 plate race way of fastening
10 grams metal to Each plate so
it cant drop out + revers when off
Make 2 A4 Cells for Holland
to test,

~~try Hot glucose + Cane sugar~~
~~on thick Viscose film~~

~~try pour Boiling water alone~~
~~over viscose film -~~

~~Rotate Cylinder with thick viscose~~
~~on in boiling water -~~

Order from Barly 1 Rumbold
for Mathew A 6 B Bellows,
or A 8
Also one for a tour around
the Country ~~HO AB = 1 Rec to carry~~
with luggage -

NaCl forms a compound with sugar
$C_{12}H_{22}O_{11}$ NaCl. $2H_2O$ –
Combines with Hydrate Ca — 3 propaline
1 Ca 2 Ca 3 Ca ! 2 Ca decomp by water
into Tribasic Salt & Sugar
Tribasic precip like albumen when
sugar Sol Continuing Excess Ca is heated

See if I get B/ on tube with
1164 & 48 —

Grind some clock way down to
get largest pcl possible ground
Above 48 — then 1164 & 136
48 60 — + Bi flake
48 60 —

Walter make a tube no flake
24 only 1164 & 48 +60 see def
Wt, —

Make an adjustable scraper
to get thin layers viscose
on glass — to make multiple
layers + then chrom also
H_2O + Silo — NaBiCrO4 —

Try leaches in sugar Sol — also alcohol
Picric in alcohol — picric with procedure
Try phenol in water —

Try Viscose ~~with~~ add the glucose or also
precipitate with ↑ or let ↑ dry + see if
glucose will prevent crystallization
also — dry only to certain point
and then coagulate in water —
Above is 9000 — also try
Multiple layers —

Realgar Sulfide Sb very feasible
made H_2O ditto Pentasulfide Sb
extremely feasible feasible
see if grow for phenol
pressing

Ammonium phosphite fuses at 123 Cent, K ~~formate MP 220c~~

acid acetate K Na
K acid phosphate for Vinegar set
K " phosphite = Alum

Selenium Sulfur at 50c
might mix with S –
possibly Sulfide Se might go in.
Sulphur + Cop Crystals

Arsenic Sulfide Of pyrit very
fusable, alloy with Realgar
to lower to fusing point also
as S

~~Dry Acetone + Water –~~
~~Aldehyde + Water precip Vis~~

grind some NaOH very fine mix 10%
with Fe + make iron pockets 1/2
gms Each. Test as noms also
Cold + hot resb

Spoke to Holland about Vanad — reduction
Fe in KOH, with Va Salt, or Va Salt alone
dup 3 Fe in 1st Pt Cl2 2nd AgNO3
3 Sb Cl2 to change Valence + also
to oxidize in Low temp –
Holland are you not the chap
about it being the Fe that is
bad on Cold Discharge.
Can test with Zinc – 10 Cu Ni

Dyri – no more experimenting at Lunston
build only standard torch he has
now – fix my Machine & Turn Lathe
over to me to finish

~~Salt of phosphotungstic heavy~~
Molecular weight Know might
use it in Engaging

Rand 1 shift 1500 Ton

	High	Low
3700 HPhoun 5 lbs 9 Tons 3	27.00	25.00
300 " 2 jimmy loco 1 Ton	4.00	4.00
2 shovels 3 Tons	9.00	9.00
Dynamite 2½c	37.50	37.50
Big Coco coal 2 Ton	6.00	5.50
Oil	5.00	3.00
Wear Rattpfalin	3.00	2.50
Water	5.00	5.00
Light Carbon lamps 8c	2.50	2.50
Pump man	2.00	1.75
Repairs	45.00	50.00
	176.50	145.75
2 shovel crews	36.00	32.00
2 jimmy 2 each	7.50	7.20
7 Drills $5. per day each	35.00	30.00
1 Blacksmith + helper	4.75	4.75
5 Trackmen + foreman	10.50	10.50
1 Shaft	6.00	10.00
1 Hand foreman	3.50	3.50
2 Powder loaders	4.75	3.60
1 Blockholer	2.50	2.25
1 water boy	1.00	1.00
1 Drill Carrier	1.60	1.60
4 Extra men	6.40	6.40
	119.50	107.55
		12.00

1 Tipper	2.75	2.50
1 Engineer bottom Rolli	3.00	2.75
1 Bottom man engineer	1.75	1.75
Top Tipper	2.50	2.50
1 Screenman	1.60	1.60
2 Car men	3.20	3.20
4 pickers	6.00	6.00
1 Hoist Eng	3.00	3.00
1 Boiler + 1 asst	4.50	4.50
2 General	3.20	3.20
1 Loco + 1 man	4.50	4.50
1 Switchman	1.60	1.60
1 Pipe man + 1 asst	4.60	4.25
2 Repair Machinist 1 help	7.50	6.60
D&W Road Loco + man	5.00	4.75
5 Trackmen + foreman	11.00	5.50 ½ time
	65.70	58.20

Extra for each excess of 100 tons

176.50	145.75	
119.50	107.55	
65.70	58.20	
361.7	311.50	

Max 24.1

Min 21.11 Carts

at D&W

Not Tons 2012 Non-Union Coal

Oct 1 1907

Notes - Banks	270 000	270 000
" Directors RHT	146 110	
Shakespeare	3,264	
EC Willis	.936	
JM Thompson	1,349	151 660
" Ja 2 yr	661 238	
" 4 & 6 mo	268 710	929 948
Merchandise Notes Oct	30 515	
Nov	21 306	
Dec	42 964	
after Jany	9 641	104 427
Total notes		1 456 237.
Accounts payable.		
payroll p/oct	26 472	
DSTW ft	61 067	
Merchdy Accts	84 258	188 537
Paine Co phone etc	16 704	
Grand total		1 644 769.

437
182
255

36

4 | 182

0

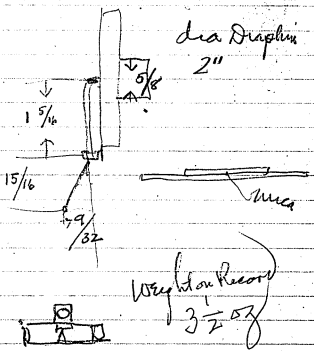
275 0 | 5000
2750.0
2250.0
2250.0
2250.0

27

N Eaborn

		A					B
		8.1.1616	Dashes	Crosses	DDTo	Licences	
Nov 1	837	12	84	14	4	0	36/6
" 15	~~852~~						
Dec 15	856						

Disk & Record up-down



Dec 22 851 2 min 639 4 m total 1 491 one for point 4 ob
Equivalent 1.811000

Hole 307 70 ft to Bromelk
" " 50 none
" " 70 other/2 none

Cost non Limestone Mills - burning lime

Mining cement rock at 30° } Limestone at 120 - }	20.00
Power	7.5
Coal Kiln -	12.0
Wear, Supplies, } Repairs - }	5.0
Burning coal - oil - Yard force office	1.5
Loading } Labor }	22.0
	70.5
Selling.	5.0
Rebates Advt + General for sales	1.0
	76.5
General Executive taxes Insts	1.0
	77.5
Deduct bag profit	5.0
	72.0
Dead Cost	2
Royalty	72.0

Cost at Mills not burning lime

Rock	10.00	6
Power	7.50	7
Kiln Coal	12	12
Wear, Supplies } Repairs }	5.00	4
Burning Coal-oil-Yard force	1.50	1
Loading } Labor }	22.00	17
	60.50	50
Selling	5.00	
Rebates Advt + Genl	1.00	
General Exec, taxes Insts	1.00	
	67.50	
	7.50	
Deduct Bag profit	60.0	
Dead Cost,	62 C	
Royalty	2	
	64 c	

Shipments

Territory A

May	61 6/5	1215	217
June	61	996	217
July	69	217	
Aug	67		
Sept	62		
Oct		1091	
Nov		73	
Dec		998	
Jany			
Febry			
March			
April			

1100 | 3600 | 33 2000 | 3 2000 | 2000

15 | 30 | 10 | 15 | 75

200 | 3600 | 2000 | 150

15 | 430 | 290 | 437 | 15

7 50 | 27 | 8 27

1091

2387 | 1100 | 2217 | 2387 | 327

119.35 | 50

RA Requirements on 50th Run 5%

(12) Best one - Thing to average of 150 hours

Dr Abraham E Orange - Montclair
Cy Acheson

Battery, Nov 6 -

Labor	2.93
Material	4.61
	7.54
Expense	5.77
	13.31 -

My Brooklyn Hoboken & C
2358 Main Street.

123.500 Vehicles in busy hour 3 per block

Battery Nov 27 652 cells

Gent 67 1/2 %	-
Labor	2.74
Material	4.30
	7.04
67%	4.76
	11.80 -

Dec 4 c Labor 2.88
Material 4.41
Gent 24 4.28
11.57

Dec 11 825 cells

Labor	2.93
Material	6.72
Gent	4.37 -

1/6 | 9.25 | 1.57

9.25 | 13.75 | 5.75 | 3.50 | 17.00 75

D

Probable Saving

5	2.5	cents profit $160 day on 800 tons dum
30	4.2	Saving on our dumpers, washers & 1 Quarry
	1.3	Using fine grinder 24 Days month 720
5	0.5	Belts from Circulating Conveyors
2	0.5	Saving chalk in Dryers
4	0.5	New pkg house No 3 Slick
20	2.5	Kiln Coal
	0.8	Saving dust for building up
	0.1	Saving lime from No 2 Dryer dryers
	0.4	Repairs, supplies.
	0.1	Lime in 3 Slick slop humidor
2	0.2	Shovel in No 2
	14.6	
		means output from 180 to 240 in month
	5.0	Saving in labor (10 Men M to 8 men M)
	19.6	
	4.0	Utilizing heat Kiln for steam
	23.6	

Selling Expense 15000 month includes Advt
of which 4000 are
7500 fixed
Rent & Com 2000
Interest floating debt not including Excess 3000
Interest on notes 4400
31900

Sales 1500 000 say in 1909 -

21.3 cents fixed charge per bbl.

61° average sales
8
69 - Bag Cost 56.0
21.3
77.3
69.8
8.1 Loss per bbl.

Selling & Com expense 17000, month which on basis of 125000 bbls is 13.6 - Excluding all interest,

13.6
56.0
69.6 Dead Cost.

If average sold is 63 48 bag gives 71 - or 1.4 cents profit per bbl.

MV 11 44 cells wt 1550 lbs 12320 watts

A 4 64 cells wt 900 lbs 12800 watts

Price A 4 $768.00
" MV11 339.00

Extra weight MV11 650 lbs, Extra loss watts to carry this wt 1/5 of total Capacity which added to price of battery raises it to $407.00

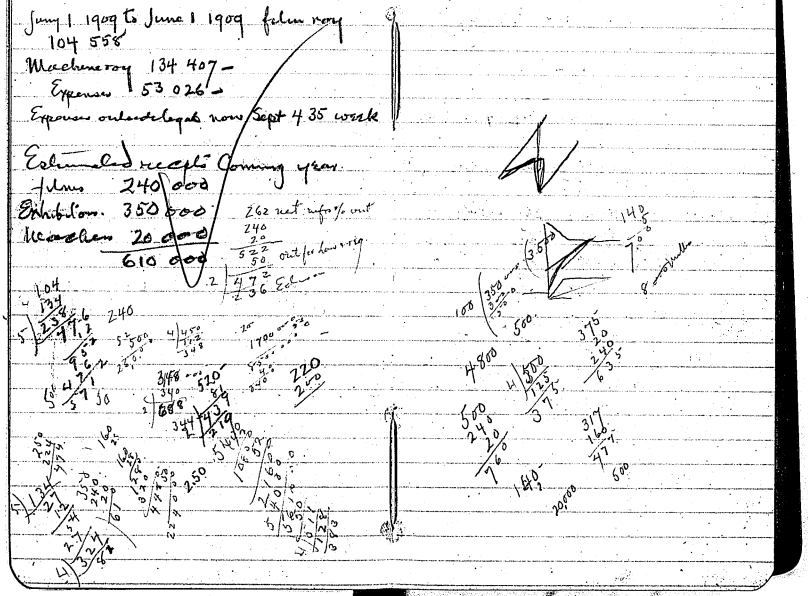
Costs of Chassis without battery $1440 or 70 cents per lb of freight Capacity, 650 lbs of dead wt displacing live freight at 70 cents per lb $455.00

Hence total real cost of MV11 is $862.00 as against $768.00 for A 4 64 —

June 1 1909 to June 1 1909 film roy
104 558
Machine roy 134 407 –
Expense 53 026 –
Expense outside legals now Sept 4.35 week

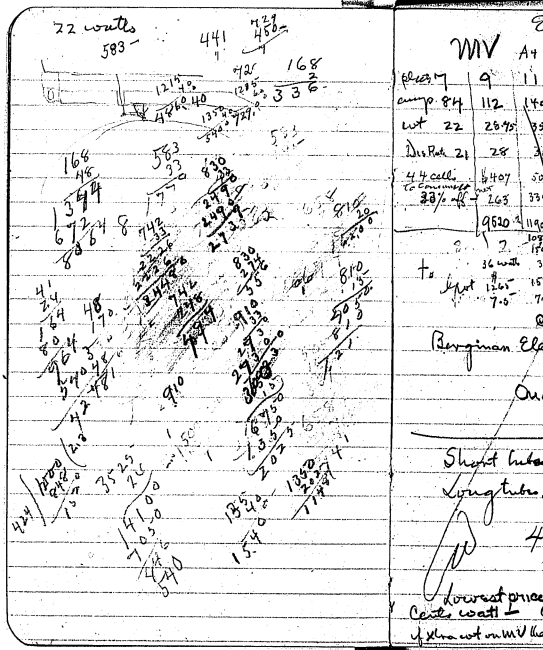
Estimated receipts Coming year
film 240 000
Exhibition 350 000
Machine 20 000
610 000

262 net after 1/3 out
240
20
522
50
out for boxing
2 | 472
236 Exhibition



22 watts

583



Eride

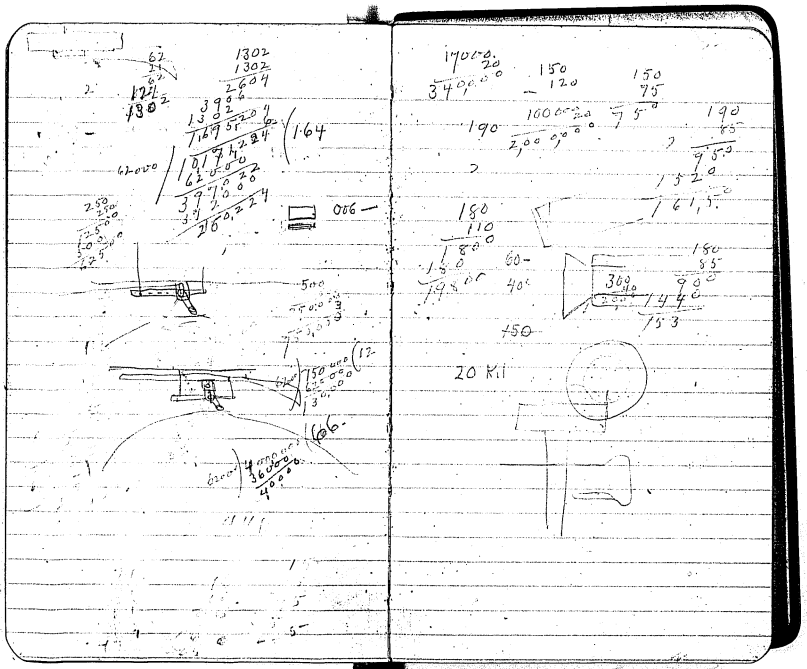
MV	A4	A4	A4 Bi				
Price 7	9	11	13	15	17	19	21
amp. 84	112	140	168	196	224	252	280
wat 22	28.75	35 1/4	41	46.75	52 1/2	60 1/4	66.75
Dis Rab 21	28	35	42	49	56	63	70
44 cell. to commence with 33% off	407	504	588	658	742	830	910
	263	339	394	441	494	556	600
	9520	11900	14280	16600	19040	21420	
		10500	13500				
		150	240	37	38	46	
	36 watt	35	36				
Short	1265	1551	1704	2057	2310	2650	
	7.05	7.7	8.3	8	8.2	8	

O. Bergmann
Bergmann Electricitäts Werke
Berlin N
Oudenarderstr 23, 32

Short tube 23 1/8 — 46 1/16
Long tube. 65 1/16 —

41.5% increase

Lowest price MV Cells average 2.7/10 Cents watt — Osram 6 Cents watt
If plus wat on MV than 3.24 cents watt —


20 Kil

Summary payroll Battery Co aug 4

	men	$
Battery Co		
Office & Eng. Dept	22	590 27
Construction	205	2059 29
Testing	50	839 07
Miscellaneous	10	134 91
Silver Lake	10	139 85
	44	548 43
J&E Lab	84	1484 67

our record 17 months ended at 100 Res
6.37 average 2 1/16 days

Funnels —

			months	ft
	32	V.16	1.04 00	9
	64		52 00	4.94
	128		26 00	
	256		13.00	
	512		6.50	
	1024		3.250	
	2048		1.620	1.620
	4096		0 781	.810

1st overflow

32	34.8 months
64	17.4
128	8.7
256	4.35
512	2.175
1024	1.0875
2048	.54
4096	.27

16.

Mag filter Colorado City

Average cost 100 ft yr end Feby 29 1908
was 78 90
" ditto Feby 28 1909
was 78 80
4 months ending 30 1909
was 147 17

Cost. per filter to 5.85 to 6.00 per 100 ft
Costs Every thing included
average selling price 8 55
profit per ft 2 70 ft —

July 25th
Ending 258 000 —

EPL 21731 ft
91470 Cons
759 bond
8 884 000 water

226 000 diatomite for Cuyahoga
260 000 lbs lime
161 000 Diatomite water
43 000 gallons + 2 1/2 Tell
123 000 unlicensed water
220 000 water in 13 months

fuel accounting

Since 7 to 10 1908 used 15666 lb Li_2CO_3
wt 668 240 lbs = 1 flask 3600 to aug 9
1909 — 6400 lbs on hand aug
9th 1909

Costs of 62 lbs flakes

get 65 return 35 at 35c cents 40c lb

Hypothetic case 90% of anode so four only 70% – 69 lbs at 31c less return 6.9 at 25c

	2139
	173
	~~1966~~
	2480

If good to get on drums

Low solution

$CuSO_4$ 414 lbs 4½c	1.86
$NiSO_4$ 4.83 gal 11c litre	2.01
Refining bath portion	.20
Distilled H_2O – 10 gal	1.00
H_2SO_4 142 lbs	1.28
City water	3.50
	9.85

Power 483 KWH 2½c	12.08
4 men 23 hours	15.40
Cu anodes 36 lbs 16c	6.61

Labor cutting 1 lb 6¼c

Separating if get 15c for CuO + only lose 10% $NiSO_4$ .23 cents per lb $NiSO_4$

1.36 c lb

Weight Tanicate 32.00 lbs Empty
aluminum weight with sand bags 37.95

9 lbs flake from 15 lbs punchings
333 gals $CuNiSO_4$ Liquid down
for 100 lbs Ni flakes

Expect ships in

May	145 M	actual ship
June	150 "	"
July	168	
Aug	173	
Sept	183	
Oct	172	
Nov	126	
Dec	94	

Tom McKendrick
Rooms 1027
874 Cable 75-1600

Dealers Cement 64%

March –	366	
apl	387	
May	531	45
June	616	45
July 1st	692	76
July 15	710	18
Aug 1	731	21
15	752	21
Sept 1 =	768	16
15	783	15
Oct 1	801	14
Oct 15	817	16

Nov 1 837 – 62 for A

Sept. 57

Cost Cement Plant — Cents per ton of finished cement

Saved in dryer	10
Low Exit Gases in Kiln 1000-	30
Circulating Cooling belt saving	10
Power from Kilns	~~40~~
New Reducer	~~5~~
Increased output to 8000	~~50~~
Rauth Crusher	50
~~Rock~~ Mining	20
	~~Offset~~

If ball mill 1200 day + 600 ~~5.45~~ Labor 20.0
17,000 bbl 17.14
8000 " 15.00
9000 " 13.90

Height new A4 Type 15" width 6"
27" for 8 cells A4 wt Cell 116-lbs
14.5 Each including tray

upon jan 19 1909 - Reg 216,113 —
wt 6.0 267,000

Lot
70 "52 grms flake 7.81 metal Pb
70 "78 " " 9.14
70 6400 Bich Metal 19.8 - Grittle blow
to 70 grm 16 gpm

S.B. Cells are 8% lower than
slug best lubes.

old flat pocket for per grm wt. ball oil: per grm wt 7.3

1½ %	1.95
3 %	2.58
6 %	2.80
9 %	3.09
15 %	3.22
30 %	2.51

1.05
2.00
2.11
2.25
2.18
1.41

Ring Lynic Record H 1½ x 7½ 14.13 inch
Circumference Velocity 37.58" per min 8.7"
mins on 7" surface

Victor 2 15/16 Recess for
cost 6 different dies
for one coil.

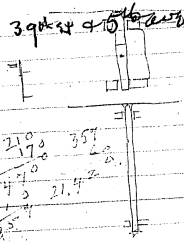
speed 78 Rev 100 Threads inch 3/32 Thick
Weight 320 grms needle 6/1000 wire for recording
Run 3.17 mins speed [illegible] Revs
22.18 sec order 46.7 [illegible] wire weight Record
Except recording [illegible] made simpler
Mean Surface Vel 344 —

35%	50	0
15%	75	
50	70.	

Average selling price
Average 69 75
7 50
7 25

MV 7 84 [illegible]
" 9 112
" 11 140 [illegible]

Club 39 [illegible] 4 [illegible]

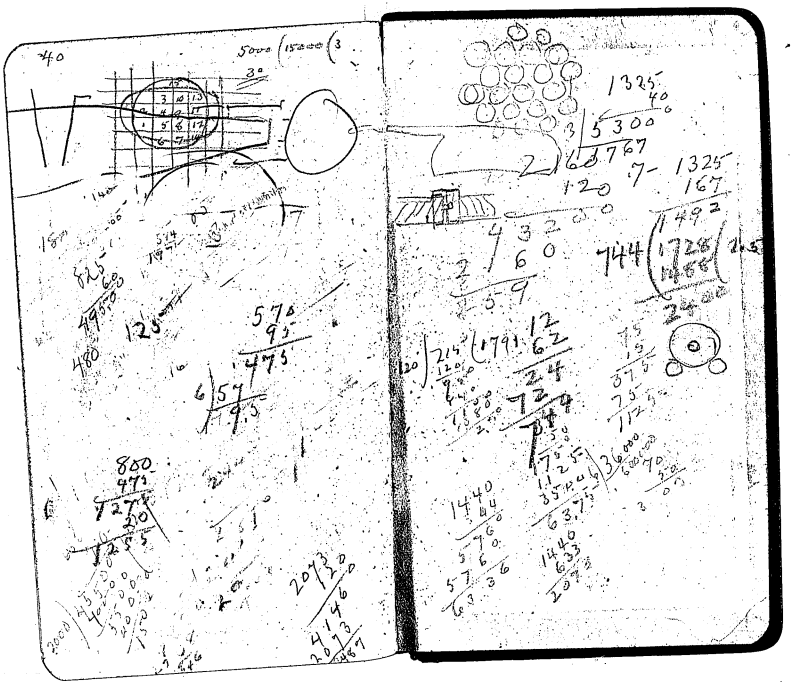


21.0
17.0
14.0
21.4
35.7
21.4

50 +

16.00
64.0

80.0
4
30

2000
25

12.00
4
48
36.0